

1

METHOD AND APPARATUS FOR IDENTIFYING DOCUMENTS USING A HANDHELD DEVICE

CROSS REFERENCE TO RELATED APPLICATIONS

This application is a Continuation of U.S. application Ser. No. 09/818,003 filed Mar. 27, 2001, the entirety of which is incorporated herein by reference.

FIELD

The present invention relates generally to sharing information and, more particularly, to identifying a document from information input to a handheld device and forwarding the document to a designated recipient.

BACKGROUND

Sharing information from documents is generally a manual and time-consuming process. When an individual reads a newspaper or magazine article and wishes to share the article with someone, he must endure a multi-stepped process fraught with frustration and potential for mistake.

A number of conventional means for sharing documents are available, although none are particularly palatable. In the above example, to share the newspaper or magazine article, the individual would have to choose one of the following means: physically tear out or photocopy the article and mail it, photocopy the article and fax it, read the article over the phone, scan the article into a computer and send it electronically, or visit the website for the newspaper or magazine, find the article, then send the uniform resource locator ("URL") for the website to the desired recipient.

The tasks above are needlessly time consuming and problematic. In the time required to manipulate the physical document and arrange for sending, the recipient could have already read the article and discussed it with the sender, if only the recipient had received the article sooner. Moreover, with all of the effort required on the part of the sender to coordinate sending the document, there is a strong likelihood the sender may lose interest altogether and not even attempt to send the article.

SUMMARY

One aspect of the present invention relates to sending information to a data processing apparatus for identification of a document having the information. A handheld device having a memory is capable of communicating with the data processing apparatus. Information is captured from the document. The captured information is stored in the memory of the handheld device as document data. A communications path is established between the handheld device and the data processing apparatus. The document data is retrieved from the memory of the handheld device and sent to the data processing apparatus through the communications path for identification of the document.

Another aspect of the present invention relates to identifying the document for sharing with a recipient, in the data processing apparatus. Reference documents are provided. Each reference document has reference data stored in a memory. The document data received from the handheld device is associated with one of the reference documents. At least a portion of the received document data is extracted as scanning data. The reference data is retrieved from the

2

memory. The scanning data is compared with the reference data. When the scanning data matches at least a portion of the reference data of one of the reference documents, the one reference document is selected as the identified document.

BRIEF DESCRIPTION OF THE FIGURES

The invention may be better understood with reference to the following figures. The components in the figures are not necessarily to scale, emphasis instead being placed upon clear illustration of principles.

FIG. 1 is a block diagram of a system 100 for identifying a document and forwarding the document to a designated recipient, constructed according to an exemplary embodiment of the present invention;

FIG. 2 is a flow diagram of a method 200 for identifying a document and forwarding the document to a designated recipient, performed in accordance with an exemplary embodiment of the present invention; and

FIG. 3 is a block diagram of a data processing apparatus 300 constructed according to an exemplary embodiment of the present invention.

DETAILED DESCRIPTION

FIG. 1 is a block diagram of a system 100 for identifying a document and forwarding the document to a designated recipient, constructed according to an exemplary embodiment of the present invention. In FIG. 1, a user 105, also referred to herein as a sender, locates a data source such as document 110. In some examples, the document 110 is a physical document such as an article in a periodical like a newspaper or magazine. In other examples, the document 110 is in electronic form, such as a word processing document or HTML document displayed on a handheld device or other data processing apparatus. Upon reading the document 110, the user 105 realizes he has several associates or desired recipients who, he believes, would also be interested in reading the document 110.

In FIG. 1, the user 105 operates a handheld device such as a mobile phone 115 or personal digital assistant ("PDA") 120. Other exemplary handheld devices include the following sold under their respective trademarks: Handspring VISOR™, Palm PALM™, HP JORNADA™, Compaq IPAQ™, Research In Motion BLACKBERRY™, NEOPOINT® Smart Phone, PSION® Series 7, NOKIA® Communicator 9000i, Samsung SCH-3500 Smart Phone, and SPRINT PCS TOUCHPOINT™. Other suitable handheld devices include watches and combinations of the above handheld devices. Such watches and devices include Qbe Personal Computing Tablet, QUBIT™ Tablet, Intel Tablet, ONHAND™ PC, daVinci, Franklin REX, Sharp ZAURUS®, Motorola PAGE-WRITER® 2000x, and Sharp telMail TM-20.

In FIG. 1, each of the handheld devices 115 and 120 includes a memory for storing data, such as a memory 310 described below with reference to FIG. 3. The various handheld devices operated by user 105 are capable of communicating with a data processing apparatus such as a server 125. A communications path can be established between the handheld devices and the server 125 by conventional techniques, including cellular and other wireless means.

In some exemplary embodiments, part or all of server 125 is implemented as the data processing apparatus 300 described with reference to FIG. 3. World Wide Web ("Web") servers may be readily incorporated. The server 125 is coupled to and in communication with a data network 130 such as the Internet, using conventional techniques under-